

CLAIMS

What is claimed is:

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- 1 1. A method for retrieving instructions from memory utilizing a texture module
2 in a graphics pipeline, comprising:
3 (a) sending an instruction request to memory utilizing a texture module in a
4 graphics pipeline; and
5 (b) receiving instructions from the memory in response to the instruction request
6 utilizing the texture module in the graphics pipeline.
 - 1 2. The method as recited in claim 1, and further comprising sending a texture
2 request to memory utilizing the texture module in the graphics pipeline.
 - 1 3. The method as recited in claim 2, and further comprising receiving texture
2 information from the memory in response to the texture request utilizing the
3 texture module in the graphics pipeline.
 - 1 4. The method as recited in claim 1, wherein the memory includes a frame
2 buffer.
 - 1 5. The method as recited in claim 4, wherein the memory includes direct
2 random access memory (DRAM).
 - 1 6. The method as recited in claim 3, wherein the instructions are adapted for
2 controlling a texture environment module coupled to the texture module.
 - 1 7. The method as recited in claim 6, wherein the instructions control the manner
2 in which the texture environment module processes the texture information.

- 1 8. The method as recited in claim 1, and further comprising receiving initial
2 instructions from a rasterizer module coupled to the texture module.
- 1 9. The method as recited in claim 8, wherein the initial instructions control at
2 least the sending of the instruction request by the texture module.
- 1 10. The method as recited in claim 3, and further comprising temporarily storing
2 the instructions and the texture information in cache.
- 1 11. The method as recited in claim 10, wherein the cache is resident on the
2 texture module.
- 1 12. The method as recited in claim 3, wherein each piece of texture information
2 and each of the instructions are of a similar size in the memory.
- 1 13. The method as recited in claim 3, and further comprising controlling the
2 texture module utilizing a shader module coupled thereto.
- 1 14. The method as recited in claim 13, wherein the shader module controls the
2 sending of the instruction request and the texture request by the texture
3 module.
- 1 15. The method as recited in claim 13, wherein the shader module processes a
2 plurality of pixels with the texture information based on the instructions.
- 1 16. The method as recited in claim 15, wherein the shader module is capable of
2 reusing the texture information in order to request further texture information
3 from the memory.
- 1 17. The method as recited in claim 15, and further comprising ceasing the
2 processing upon the receipt of a terminate instruction.

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- 1 18. The method as recited in claim 1, wherein a complete instruction set is
2 received in response to the instruction request.
- 1 19. The method as recited in claim 1, wherein a partial instruction set is received
2 in response to the instruction request.
- 1 20. The method as recited in claim 19, and further comprising repeating (a) – (b)
2 in accordance with the instructions.
- 1 21. The method as recited in claim 1, wherein (a) – (b) are carried out in
2 accordance with the instructions received in response to the instruction
3 request.
- 1 22. The method as recited in claim 1, wherein the texture module is adapted for
2 operating in a plurality of different modes.
- 1 23. The method as recited in claim 22, wherein the instructions are received in a
2 predetermined one or more of the different modes.
- 1 24. A computer program product for retrieving instructions from memory
2 utilizing a texture module in a graphics pipeline, comprising:
3 (a) computer code for sending an instruction request to memory utilizing a
4 texture module in a graphics pipeline; and
5 (b) computer code for receiving instructions from the memory in response to the
6 instruction request utilizing the texture module in the graphics pipeline.
- 1 25. A system for retrieving instructions from memory utilizing a texture module
2 in a graphics pipeline, comprising:
3 (a) means for sending an instruction request to memory; and

4 (b) means for receiving instructions from the memory in response to the
5 instruction request.

1 26. A texture module for retrieving instructions from memory capable of
2 carrying out a method, comprising:

3 (a) sending an instruction request to memory; and

4 (b) receiving instructions from the memory in response to the instruction request.

1 27. A data structure stored in a frame buffer of a graphics pipeline for allowing
2 the retrieval of instructions utilizing a texture module coupled thereto,
3 comprising an instruction object stored in the frame buffer for being retrieved
4 therefrom in response to an instruction request utilizing a texture module in a
5 graphics pipeline.

1 28. A method for retrieving instructions from memory, comprising:

2 (a) receiving a plurality of preliminary instructions from a rasterizer module
3 utilizing a texture module coupled thereto;

4 (b) sending an instruction request to memory utilizing the texture module;

5 (c) receiving additional instructions from the memory in response to the
6 instruction request utilizing the texture module;

7 (d) caching the additional instructions on the texture module;

8 (e) sending a texture request to memory utilizing the texture module in
9 accordance with the additional instructions;

10 (f) receiving texture information from the memory in response to the texture
11 request utilizing the texture module;

12 (g) caching the texture information on the texture module; and

13 (h) repeating (b) – (g) in accordance with the additional instructions.

1 29. A method for retrieving instructions from memory, comprising:

2 (a) receiving a plurality of preliminary instructions from a rasterizer module
3 utilizing a shader module coupled thereto;

- sending an instruction request to memory;
 to the shader module;
 receiving additional instructions from memory;
 sending an instruction request utilizing the texture module;
 caching the additional instructions on the texture module;
 sending a texture request to memory upon receipt of the instruction;
 in accordance with the additional instruction;
 receiving texture information from the memory;
 request utilizing the texture module;
 caching the texture information on the texture module;
 processing a plurality of pixels with the texture module;
 the shader module in accordance with the texture information;
 repeating (b) – (h) in accordance with the texture information;
 outputting the processed pixels upon receipt of the instruction;
 include a terminate instruction.